

U.S. Department of the Interior
Bureau of Land Management
Glenwood Springs Field Office
50629 US Highway 6 & 24
Glenwood Springs, CO 81601

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-140-2008-037 EA

CASEFILE NUMBER: 004838

PROJECT NAME: East Jack Pipeline and Pond

LOCATION: T4S, R87W, E2SW4 Sec. 15, 6th Principal Meridian. Refer to attached location map.

APPLICANT: Bureau of Land Management

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Proposed Action: The proposed action would be to install 0.5 mile (0.2 mile on private land and 0.3 mile on public land) of water pipeline (up to two inch diameter high density poly pipe) and construction of a stock pond at the pipeline terminus. The pipeline would capture water from an irrigation ditch, located on private land, and transport the water to the proposed pond on public land. Refer to the attached drawings and specifications for construction details and map for project locations. The lower 0.3 mile of the pipeline would be buried in a trench along an existing trail (overgrown road) and ditch. The ditch has been used historically to transport irrigation water to an existing pond (located 0.4 mile below the proposed pond site). A small bull dozer would be used to excavate and backfill the trench. The trench would be approx. two feet wide and 18 inches deep. Width of disturbance would be approx. 10 feet. The upper 0.2 mile of pipeline would be not be buried and would be laid in the ditch where it traverses a steep grade. The proposed pond will be no more than 70 feet in diameter and will disturb no more than 0.1 acres of vegetation and soils. A small bull dozer would also be used to perform the pond construction work. The proposed pond is located approximately 50 feet from the existing road and ditch.

Construction will be accomplished by either BLM's Force Account with assistance from the grazing permittee or will be done solely by the grazing permittee. Maintenance of the project will be the responsibility of the grazing permittees. The projects would be authorized under cooperative agreement as per 43 CFR 4120.3-2.

Project Design Features:

- The U.S. Fish and Wildlife Service (USFWS) has determined that any federal action that will deplete water in the basin will prompt a "may affect" determination for the 4 Big River Fish under Section 7 of the Endangered Species Act. The project is covered by the programmatic biological assessment and will be included on the Resource Area's water depletion log, submitted to the FWS at the end of the year.
- Disturbed areas will be reseeded with a certified weed-free seed mixture of native species adapted to the site. The permittee will monitor the pipeline and reservoir disturbance to

detect the presence of any noxious weeds and will be responsible for promptly controlling any noxious weeds on the Colorado State List A or B (except redstem filaree) within the area disturbed from reservoir construction. If the permittee chooses to use herbicides as the control method on public lands, a Pesticide Use Proposal shall be submitted to the BLM and approved prior to initiating any herbicide spraying.

No Action Alternative: Construction of the proposed pipeline and stock pond would not be authorized.

ALTERNATIVES CONSIDERED BUT ELIMINATED:

Installing the pipeline to the existing pond site was considered initially. This alternative would require 0.4 mile more pipeline and increase the amount of ground disturbance as well as increase the project costs. For these reasons, this alternative was eliminated from further analysis.

PURPOSE AND NEED FOR THE ACTION: The proposed action would provide livestock and wildlife with a more reliable source of water in an area of the grazing allotment that lacks sufficient watering sources. This would help improve grazing distribution, would maintain/improve the condition of upland areas, and would help maintain/achieve Colorado Public Land Health Standards 3 (plant and animal communities). The current method of transporting water through an open ditch to an existing pond has proven to be less effective as much of the water seeps into the ground before reaching the pond. That portion of the ditch that traverses the steep grade has also caused some erosion. Installation of the pipeline would reduce this erosion and would eliminate the seepage problem currently experienced with the open ditch.

PLAN CONFORMANCE REVIEW: The proposed action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: Glenwood Springs Resource Management Plan.

Date Approved: Jan. 1984, revised 1988, amended in November 1991 - Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement; amended Nov. 1996 - Colorado Standards and Guidelines; amended in August 1997 - Castle Peak Travel Management Plan; amended in March 1999 - Oil and Gas Leasing & Development Final Supplemental Environmental Impact Statement; amended in November 1999 - Red Hill Plan Amendment; and amended in September 2002 – Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance.

Decision Number/Page: The proposal implements land use plan decision LGM2 page 20.

Decision Language: LGM2 states "construct facilities such as springs, reservoirs, fences, corrals, and livestock trails where necessary to control and distribute livestock."

STANDARDS FOR PUBLIC LAND HEALTH:

The Colorado Standards for Public Land Health consist of 5 standards: upland soils, riparian systems, plant and animal communities, special status species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands.

The BLM is in the process of completing land health assessments on a landscape basis. The Deep Creek Landscape, which includes the project area, is scheduled for an assessment in 2008.

Since the assessment has not been conducted on this landscape, there will be no determination made on achievement of the standards. However, the environmental analysis for this proposed action must address whether the proposed action or alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions relative to these five standards.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section provides a description of the human and natural environmental resources that could be affected by the proposed action and no action alternative. In addition, the section presents comparative analyses of the direct and indirect consequences on the affected environment stemming from the implementation of the various actions.

A variety of laws, regulations, and policy directives mandate the evaluation of the effects of a proposed action and alternative(s) on certain critical environmental elements. Not all of the critical elements that require inclusion in this EA are present, or if they are present, may not be affected by the proposed action and alternative (Table 1). Only those mandatory critical elements that are present and affected are described in the following narrative.

In addition to the mandatory critical elements, there are additional resources that would be impacted by the proposed action and alternative. These are presented under **Other Affected Resources**.

Critical Elements

Table 1. Critical Elements of the Human Environment									
<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>		<i>Critical Element</i>	<i>Present</i>		<i>Affected</i>	
	Yes	No	Yes	No		Yes	No	Yes	No
Air Quality	X		X		Prime or Unique Farmlands		X		X
ACECs		X		X	Special Status Species*	X		X	
Cultural Resources		X		X	Wastes, Hazardous or Solid		X		X
Environmental Justice	X			X	Water Quality, Surface and Ground*	X		X	
Floodplains		X		X	Wetlands and Riparian Zones*		X		X
Invasive, Non-native Species	X		X		Wild and Scenic Rivers		X		X
Migratory Birds	X		X		Wilderness/ WSAs		X		X
Native American Religious Concerns	X		X						

* Public Land Health Standard

Air Quality

Affected Environment: The proposed action area (Garfield County) has been described as an attainment area under CAAQS (Colorado Ambient Air Quality Standards) and NAAQS (National Ambient Air Quality Standards). An attainment area is an area where ambient air pollution amounts are determined to be below NAAQS standards. For more information on existing air quality in the area, refer to the Roan Plateau RMPA and EIS which describes potential effects from oil and gas development (BLM 2006:4-26 to 4-37).

Environmental Consequences/Mitigation:

Proposed Action: Implementation of the proposed action would have very little if any effect on air quality. Short-term localized emissions would result from dozer operations. Additionally, there is a potential for some dust generation if these activities occur in dry conditions.

No Action Alternative: The no action alternative would have no effect on air quality.

Cultural Resources

Affected Environment: A Class III inventory (GSFO# 15807-7) was conducted for the proposed project. No historic properties were identified. Therefore, formal consultation with the Colorado State Historic Preservation Officer was not required and a determination of “**No Historic Properties Affected**” was made in accordance with the National Historic Preservation Act (16U.S.C 470f), National BLM/SHPO Programmatic Agreement (1997), and Colorado Protocol (1998).

Environmental Consequences/Mitigation:

Proposed Action: Although the proposed action would have no direct impacts on historic properties, indirect impacts from increased access and the presence of project personnel could result in a range of impacts to undiscovered cultural resources in the vicinity of the location. These impacts could range from illegal collection and excavation to vandalism. A standard Education/Discovery Stipulation for cultural resource protection would be attached to the permit. The importance of this stipulation should be stressed to the operator informing them of their responsibilities to protect and report any cultural resources encountered.

No Action Alternative: Under this alternative the project would not be built. As a consequence both known and undiscovered cultural resources and historic properties would be more protected from potential adverse impacts.

Invasive, Non-native Species

Affected Environment: No noxious weeds or invasive, non-native species have been officially documented at the proposed project site. However, given the widespread nature of noxious weed infestations throughout the resource area, it is assumed that some level of infestation does exist in the project area.

Environmental Consequences/Mitigation:

Proposed Action: All surface disturbing activities provide a niche for invasion by noxious weeds and increase the potential for weeds to become established in an area. The Project Design Features of the Proposed Action (pg 1-2) has supplied adequate measures for the control of potential weed infestations at the project area; therefore, no other mitigation measures are needed. The Proposed Action will not significantly impact invasive, non-native species within the project area.

No Action Alternative: Under this alternative, the project would not be constructed. There would not be a niche created for noxious weed invasion. The presence of noxious weeds would likely continue under current conditions.

Migratory Birds

Affected Environment: Vegetation in the project area consists primarily of serviceberry and mountain shrub with some sagebrush patches. These habitat types provide nesting and foraging habitat for a variety of migratory bird species. One species on the USFWS Birds of Conservation Concern List, Virginia's warbler, may nest in the area.

Environmental Consequences/Mitigation:

Proposed Action: The proposed action has a low potential to result in the 'take' of any migratory bird. Nesting attempts may be disrupted and some nests may be accidentally destroyed if the pond and pipeline are constructed during the breeding season (May – July). As this would impact less than 1/2 acre of habitat, potential for 'take' would remain low. Once construction on the water development is complete, there would be no further potential to interfere materially with nest substrate. An additional water source may improve migratory bird habitat by evenly distributing grazing throughout the allotment. Habitat in the immediate vicinity of the pond would be degraded by livestock congregation, however, this would not be expected to impact the productivity of the surrounding habitat. The proposed action would have little influence on the abundance or distribution of breeding migratory birds at a landscape level.

No Action: There would be no risk of 'take' under the no action alternative.

Native American Religious Concerns

Affected Environment: The Ute tribes claim this area as part of their ancestral homeland. At present, no Native American concerns are known within the project area and none were identified during the inventory. The Ute Tribe of the Uintah and Ouray Bands, the primary Native American Tribe for this area of the GSFO, have indicated that they do not need to be consulted for small projects or projects where no Native American areas of concern have been identified either through survey or past consultations. Therefore, formal consultation was not undertaken. If new data are disclosed, new terms and conditions may have to be negotiated to accommodate their concerns.

Environmental Consequences/Mitigation:

Proposed Action: Although there would be no direct impacts from the proposed action, indirect impacts from increased access and personnel in the vicinity of the proposed project could result in a range of impacts to unknown Native American resources from illegal collection to vandalism. A standard Education/Discovery Stipulation for the protection of Native American values would be attached to the permit. The importance of this stipulation should be stressed to the operator informing them of their responsibilities to protect and report any cultural resources encountered.

No Action: Under this alternative the project would not be built. As a consequence both known and undiscovered cultural resources and historic properties would be more protected from potential adverse impacts.

Special Status Species (includes an analysis of Public Land Health Standard 4)

Affected Environment: According to the latest species list from the U. S. Fish and Wildlife Service (<http://mountain-prairie.fws.gov/endspp/CountyLists/COLORADO.pdf>), the following Federally listed, proposed, or candidate plant and animal species may occur within or be

impacted by actions occurring in Garfield County: Uinta Basin hookless cactus (*Sclerocactus glaucus*), Parachute beardtongue (*Penstemon debilis*), DeBeque phacelia (*Phacelia submutica*), Canada lynx (*Lynx canadensis*), Mexican spotted owl (*Strix occidentalis*), yellow-billed cuckoo (*Coccyzus americanus*), razorback sucker (*Xyrauchen texanus*), Colorado pikeminnow (*Ptychocheilus lucius*), bonytail chub (*Gila elegans*), and humpback chub (*Gila cypha*). In addition, the federally listed threatened plant, Ute Ladies' Tresses (*Spiranthes diluvialis*) was documented within Garfield County in 2007.

Within the project area, potential habitat for the BLM sensitive plant, Harrington's penstemon (*Penstemon harringtonii*) occurs within the project area. This species is found in open sagebrush parks on rocky loam or rocky clay loam soils between 6,200 and 9,200 feet elevation. This species is known to occur within 2 miles of the project area.

The project would result in the depletion of water from the Colorado River Basin. As such, the Big River Fishes (Colorado pikeminnow, razorback sucker, humpback chub, and bonytail) that reside downstream of the action area are addressed in detail.

Environmental Consequences/Mitigation:

Proposed Action:

Harrington's penstemon

The project location was surveyed for Harrington's penstemon in the summer of 2007. No individuals of this species were seen within the project area. The project area was dominated by serviceberry and snowberry which are not considered habitat for the penstemon.

Big River Fish (Colorado pikeminnow, razorback sucker, bonytail chub, humpback chub)

These fishes are all federally listed as Endangered, and Critical Habitat is designated within the Colorado River and its 100-year floodplain from the town of Rifle downstream. In May 1994, BLM prepared a Programmatic Biological Assessment (PBA) that addresses water depleting activities in the Colorado River Basin. In response to BLM's PBA, the U. S. Fish and Wildlife Service (FWS) issued a Biological Opinion (BO) (#ES/GJ-6-CO-94-F-017) on June 13, 1994, which determined that water depletions from the Colorado River Basin will adversely affect the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker and result in the destruction or adverse modification of their critical habitat. The BO includes reasonable and prudent alternatives developed by the FWS which allow BLM to authorize projects that result in water depletion (if less than 125 AF) while avoiding the likelihood of jeopardy to the endangered fishes and avoiding destruction or adverse modification of their critical habitat. As a reasonable and prudent alternative in the BO, FWS authorized BLM to make a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet depleted by each project. The BO instructed BLM to make an annual payment to the National Fish and Wildlife Foundation (NFWF) to cover all BLM authorized actions that result in water depletions. The depletion associated with this proposed pipeline and pond development is covered by the Programmatic Biological Assessment and Opinion, and the depletion amount associated with this project will be included on the Field Office's water depletion log and will be incorporated into the fee total submitted to the FWS at the end of the fiscal year.

No Action:

Big River Fish (Colorado pikeminnow, razorback sucker, bonytail chub, humpback chub)

Under the no action alternative no pond or pipeline would be constructed. No water depletions would occur, and no impacts to these fishes would result.

Analysis on the Public Land Health Standard for Special Status Species:

A formal Land Health Assessment has yet to be completed for the project area. Water depletions associated with the project would be accounted for. Otherwise, the proposed action should have minimal bearing on the watersheds ability to meet Standard 4 for special status species.

Water Quality, Surface and Ground (includes an analysis of Public Land Health Standard 5)

Affected Environment: Proposed activities would occur northwest of the Town of Dotsero and west of the Colorado River within the 15,127 acre Lower Deep Creek 6th field watershed. Just north of the project area is an ephemeral tributary to Jack Creek which is in turn tributary to the perennial Deep Creek to the south. At this time, the ephemeral tributary to Jack Creek is not listed on the State of Colorado’s *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37) list, *303(d) List of Water Quality Limited Segments Requiring TMDLS* (CDPHE, Water Quality Control Commission, Regulation No. 93), or the *Monitoring and Evaluation List* (CDPHE, Water Quality Control Commission, Regulation No. 94). In addition, there are no water quality data for this ephemeral drainage.

Environmental Consequences/Mitigation:

Proposed Action: Proposed activities would result in the removal of vegetation and the exposure of denuded soils in close proximity to the unnamed ephemeral drainage. This could result in an increase in erosion and sediment available for transport to the nearby drainage. These impacts would be short term and minor prior to vegetation reestablishment. It is recommended that a good vegetative buffer be maintained between the ground disturbing activities and the drainage to minimize the potential for sediment delivery to the drainage.

No Action: The no action alternative would result in continued erosion along the existing ditch.

Analysis on the Public Land Health Standard for Water Quality: At this time there are no land health data available for this area but an assessment is planned in the future. The proposed activities would not likely prevent Standard 5 for Water Quality from being met.

Other Affected Resources

In addition to the critical elements, the resources presented in Table 2 were considered for impact analysis relative to the proposed action and no action alternative. Resources that would be affected by the proposed action and no action alternative are discussed below.

Table 2. Other Resources Considered in the Analysis.			
<i>Resource</i>	<i>NA or Not Present</i>	<i>Present and Not Affected</i>	<i>Present and Affected</i>
Access and Transportation		X	
Cadastral Survey	X		
Fire/Fuels Management	X		
Forest Management	X		
Geology and Minerals	X		
Law Enforcement	X		

Paleontology	X		
Noise	X		
Range Management			X
Realty Authorizations	X		
Recreation		X	
Socio-Economics	X		
Soils			X
Vegetation			X
Visual Resources	X		
Wildlife, Aquatic			X
Wildlife, Terrestrial			X

Range Management:

Affected Environment: The proposed project is located in the Onion Ridge Allotment which is under a grazing permit to Chris Estes. Permitted grazing use is as follows:

Livestock No./Kind	Period of Use	% PL	AUMS
245 Cattle	05/16 – 07/10	100	451
245 Cattle	09/29 – 10/01	100	24

Environmental Consequences/Mitigation:

Proposed Action: The proposed action would supply livestock with a more reliable source of drinking water and would help improve grazing distribution. This would improve conformance with the Guidelines for Livestock Grazing Management in Colorado (Guideline No. 2 - grazing management practices that address distribution), would maintain/improve the condition of upland areas and would help achieve/maintain of Colorado Public Land Health Standard 3 (plant and animal communities).

No Action: The project would not be constructed. The additional drinking water source would not be supplied; consequently, grazing distribution would not be improved. There would be no improved conformance with the Guidelines for Livestock Grazing Management in Colorado (Guideline No. 2 - grazing management practices that address distribution). This alternative would not help achieve/maintain Colorado Public Land Health Standard 3 (plant and animal communities).

Soils (includes an analysis of Public Land Health Standard 1)

Affected Environment: According to the *Soil Survey of Aspen-Gypsum Area, Colorado: Parts of Eagle, Garfield, and Pitkin Counties* (USDA 1992), proposed activities would occur on the soil map unit Leavitville loam. This deep, well drained soil is found on mesas at elevations ranging from 8,500 to 9,200 feet and on slopes of 4 to 25 percent. It is derived from limestone and sandstone rocks. Surface runoff is slow and the water erosion hazard is slight. Primary uses for this soil include livestock grazing and wildlife habitat.

Environmental Consequences/Mitigation:

Proposed Action: Proposed activities would result in soil compaction and displacement associated with dozer operations. This could result in an increase in erosion and sediment available for transport to the nearby drainage. These impacts would be short term and minor prior to vegetation reestablishment. As mentioned in the *Surface Water* section above, it is

recommended that a good vegetative buffer be maintained between the ground disturbing activities and the drainage to minimize the potential for sediment delivery to the drainage.

No Action: The no action alternative would result in continued erosion along the existing ditch.

Analysis on the Public Land Health Standard for Upland Soils: At this time a land health assessment is planned for the proposed action area. The proposed activities would not likely prevent Standard 1 for Upland Soils from being met.

Vegetation (includes an analysis of Public Land Health Standard 3)

Affected Environment: Vegetation in the project area consists of a serviceberry/mountain shrub community with small pockets of mountain big sagebrush.

Environmental Consequences/Mitigation:

Proposed Action: The proposed action would involve digging a trench to bury a pipeline and the construction of a small pond. The construction phase would result in the temporary loss of approximately 0.5 acres of vegetation. Following construction, the disturbed area along the pipeline would be seeded with native species to revegetate the site. Livestock would likely concentrate around the pond, which may result in additional loss of upland vegetation in the immediate area. However, the creation of the pond should improve livestock distribution within the allotment which may improve overall vegetative cover and composition in the allotment. Long-term loss of vegetation at and immediately adjacent to the pond should be less than 0.2 acres.

No Action: Under the No Action alternative, no pipeline or pond would be constructed. There would be no temporary or long-term loss of vegetation in the project area.

Analysis on the Public Land Health Standard for Plant and Animal Communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): A formal land health assessment has not been conducted on this area. The proposed action is not likely prevent the area from meeting, maintaining or moving towards meeting the standard for healthy plant communities.

Wildlife, Aquatic (includes an analysis of Public Land Health Standard 3):

Affected Environment: The proposed pipeline and stock pond are not located directly near any perennial water source. The project area is generally drained via small ephemeral washes that only run during spring snowmelt and summer thunderstorm activity. Ephemeral Jack Creek is the largest drainage in close proximity to the project. Water diversion ditches also exist in the area and run water seasonally. The project site is within .75 miles of Deep Creek a large perennial stream that contains brook, cutthroat, and brown trout. In addition, the creek contains a variety of aquatic insects.

Environmental Consequences/Mitigation:

Proposed Action: The pipeline would capture water from an existing diversion ditch on private land and pipe it to the proposed pond located on public land. The pond would be small and given the distance to Deep Creek no sediment concerns are anticipated from construction of either the pipeline or the new pond. It is likely that once completed, livestock use would increase in the area around the pond site. However, overall distribution of livestock should be

improved which should help improve all upland conditions on the allotment benefiting the entire watershed. Fish residing in Deep Creek should not be negatively affected by the project.

No Action: Under the no action alternative, no pipeline or pond would be constructed. No impacts to aquatic wildlife would result.

Analysis on the Public Land Health Standard 3 for Plant and Animal Communities (partial, see also **Vegetation and Wildlife, Terrestrial**): A formal Land Health Assessment has not been completed for the area. The proposed action should have little bearing on the watershed's ability to meet, maintain, or move toward meeting Standard 3 for aquatic wildlife.

Wildlife, Terrestrial (includes an analysis of Public Land Health Standard 3)

Affected Environment: Vegetation in the project area consists primarily of serviceberry and mountain shrub with some sagebrush patches. These communities typically provide habitat for big game species as well as small mammals, reptiles and birds. Mule deer and elk utilize this area during moderate winters. The project area does not provide critical habitat for any wildlife species.

Environmental Consequences/Mitigation:

Proposed Action: The construction of one small pond should have minimal impact to terrestrial wildlife. Less than 1/2 acre of upland habitat would be impacted to accommodate the pipeline and pond. The pond would provide resident wildlife with an additional upland water source and would evenly distribute grazing throughout the allotment. It is likely that livestock would concentrate around the pond, which could result in increased utilization of upland vegetation in the immediate area. However, the creation of the pond should improve overall habitat conditions across the greater area to the benefit of a variety of wildlife species.

No Action Alternative: There would be no impacts to terrestrial wildlife species or their habitat under this alternative. However, the proposed action would likely benefit wildlife species by improving habitat conditions throughout the allotment.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also **Vegetation and Wildlife, Aquatic**): A formal land health assessment has not been completed for this area. The proposed action would have minimal impacts to wildlife species and would not preclude this standard from being met.

SUMMARY OF CUMULATIVE IMPACTS

No cumulative impacts have been identified.

PERSONS AND AGENCIES CONSULTED:

Chris Estes, grazing permittee

INTERDISCIPLINARY REVIEW:

<i>Name</i>	<i>Title</i>	<i>Responsibility</i>
Michael Kinser	Rangeland Management Specialist	NEPA Lead, Wetlands and Riparian Zones, Range Management

Cheryl Harrison	Archaeologist	Cultural Resources and Native American Religious Concerns
Jeff O'Connell	Hydrologist/Geologist	Soil, Air, Water, Geology
Desa Ausmus	Wildlife Biologist	Migratory Birds, Terrestrial Wildlife, T&E
Dereck Wilson	Rangeland Management Specialist	Invasive, Non-native Species
Carla DeYoung	Ecologist	Vegetation, T/E/S Plants
Kay Hopkins	Outdoor Recreation Planner	ACEC, VRM, WSA, WSR
Tom Fresques	Fisheries Biologist	T&E Aquatic Species, Aquatic Wildlife

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The environmental assessment, analyzing the environmental effects of the proposed action, has been reviewed. The proposed action with mitigation measures result in a finding of no significant impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION RECORD

DECISION: It is my decision to adopt the proposed action to construct the pipeline and reservoir as described in the proposed action in accordance with the project design features, specifications drawings, and mitigation measures identified below.

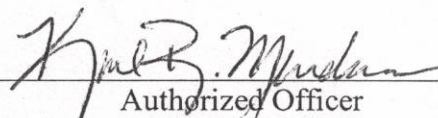
RATIONALE: Construction of the pipeline and reservoir would provide cattle and wildlife with an additional source of water, help improve grazing distribution, maintain/improve the condition of upland areas, help achieve Colorado Public Land Health Standard 3 (plant and animal communities), and would reduce the erosion currently experienced with the open ditch.

MITIGATION MEASURES:

The permittee and all persons specifically associated with operations involved in this permit must be informed that any objects or sites of cultural, paleontological, or scientific value such as historic or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts shall not be damaged, destroyed, removed, moved, or disturbed. If in connection with allotment operations under this authorization any of the above resources are encountered, the proponent shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the BLM authorized officer of the findings. The discovery must be protected until notified in writing to proceed by the authorized officer (36 CFR 800.110 & 112, 43 CFR 10.4)

NAME OF PREPARER: Michael R. Kinser

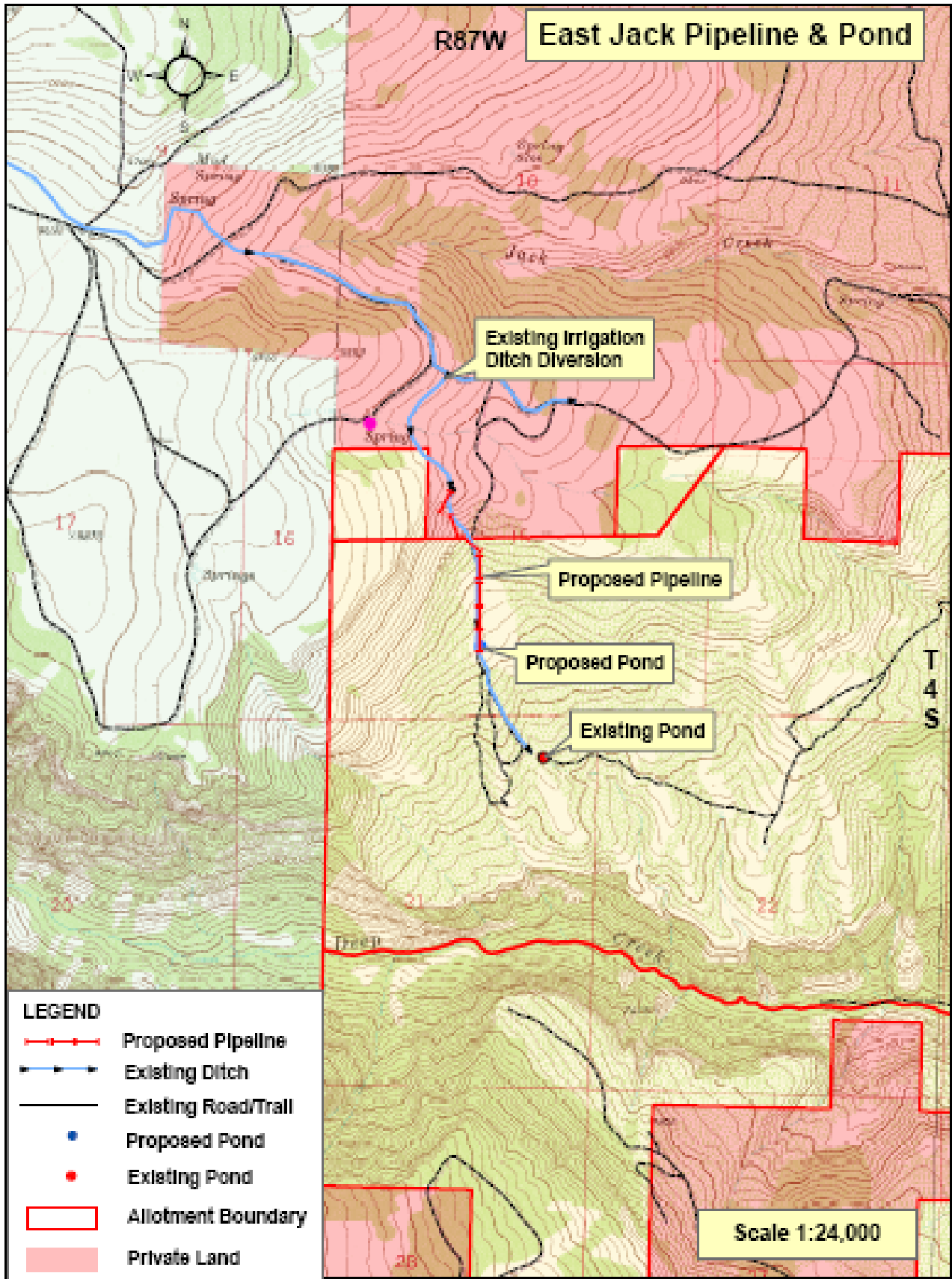
SIGNATURE OF AUTHORIZED OFFICIAL:


Authorized Officer

DATE SIGNED: 3/20/2008

APPENDICES: None

ATTACHMENTS: Location map, specifications and drawings.



Project Specifications

02229

DIVISION 2

SITWORK

Rev. 11-90

SECTION 02229

TRENCHING, BACKFILLING, AND COMPACTING

PRODUCTS

MATERIALS:

- A. General: Material excavated shall be considered unclassified.
- B. Fill Material: Shall be approved before use. Material from excavations shall be used, unless it contains ice or frozen earth, debris, high moisture content, or is specified in other sections to be replaced. Materials removed in clearing and grubbing shall not be used for backfill. Backfill shall not contain rock larger than [] inches in diameter.
- C. Bedding: Shall be material approved by the Contracting Officer, with a general size range from 1/4 inch to 1/2 inch.

EXECUTION

PREPARATION:

- A. Clearing: Maximum clearing width is 4 ft on each side of the trench. Provide minimum disturbance to existing grass and sod. Dispose of debris on site. Clearing and grubbing shall be according to Section 02111 - Clearing and Grubbing.

INSTALLATION:

- A. Trench Excavation: Shall be as shown on the drawings. Excavate trenches in rock to a depth of at least 4 inches but not exceeding 12 inches below pipe bottom.
 - 1. When overexcavation occurs repair the area by backfilling with approved bedding material and compacting to 95% maximum dry density according to AASHTO T 99, Method C.
 - 2. When frost action occurs, remove frozen soil and replace with approved soil compacted to 95% of maximum dry density as determined by AASHTO T 99, Method C.
 - 3. When soil becomes saturated above the optimum moisture content, compact after it has dried, or remove soil down to firm material and place backfill before construction proceeds.
- B. Bedding: Shall be placed as shown on the drawings. Fine grade the trench bottom throughout and provide uniform and continuous support for each section of pipe except at bell holes or depressions necessary for making proper joints. Compact to 95% maximum dry density as determined by AASHTO T 99, Method C.

- C. Trench Backfill: After testing and approval of interconnected piping the trench backfilling shall be completed. Where shown on the drawings the backfill shall be placed without compaction. The excavated material shall be placed in the trench and shall be mounded as shown on the drawings. Puddling or flooding of trench for consolidation of backfill or use of wheel rolling by construction equipment will not be permitted.
1. Provide uniform and continuous support for each section of pipe except at bell holes or depressions necessary for making proper joints. Place backfill in 6-inch maximum loose lifts to a depth of 1 ft over the top of the pipe. Compact to 95% maximum dry density as determined by AASHTO T 99, Method C. Prevent lateral displacement during compaction.

02291
WORK DATA SHEET

for

SECTION 02291 - MINOR EARTH DAMS AND PITS

1. Pit depth in ft 4 to 6 ft
2. Pit length in ft (L): 10 to 15 ft
3. Pit width in ft (W): 10 to 15 ft
4. End slope: 2:1
5. Side slope: 3:1
6. Embankment shape: U
7. Distance between pit and berm (A): None
8. Dam height in ft: 5 to 8 ft
9. Crest width: 12 ft
10. Crest length: 70 to 150 ft
11. Downstream slope (D.S.): 2:1
12. Upstream slope (U.S.): 2.5:1
13. Cut spillway width: 6 to 8 ft
14. Cut spillway side slope: 1:1
15. Cut spillway depth: 2 to 3 ft
16. Natural spillway depth: 2 to 3 ft
17. Depth of cut off trench (core): 2 to 4 ft
18. Borrow area side slope: 1:1
19. Borrow area end slope: 3:1

SECTION 02291

Minor Earth Dams and Pits

PART 1: GENERAL

1.01 SUMMARY:

A. Section Includes: Clearing, grubbing, excavation, embankment development, and core trenching for construction of minor earth dams and water-retention pits.

B. Related Sections:

Clearing and Grubbing - Section 02231

1.02 DEFINITIONS:

A. Common Excavation: Materials to be removed from excavation, except igneous, metamorphic and sedimentary rock which cannot be excavated without blasting, will be considered common excavation. When ripping is required, the material will also be considered common excavation. Material which cannot be ripped with a rear-mounted, heavy duty, single-tooth, ripping attachment mounted on a crawler tractor having a power rating of at least 195 net flywheel hp shall be considered rock.

PART 2: PRODUCTS

2.01 MATERIALS:

A. General: See definitions.

B. Embankment: Excavated materials shall be placed in the embankment. Pervious materials, such as sand and gravel, shall be placed above the high water level.

PART 3: EXECUTION

3.01 PREPARATION:

A. Clearing and Grubbing: Shall be in accordance with Section 02231 – Clearing and Grubbing.

B. Conservation of Topsoil: Suitable material removed in conjunction with clearing, grubbing, bank sloping, and borrow area preparation shall be conserved in neat stockpiles at locations designated by the BLM.

C. Depth of Stripping: Normal stripping depth is not expected to exceed 6 inches, although variations may be encountered. The Contractor shall conserve available topsoil.

3.02 INSTALLATION:

A. Placement of Topsoil: After construction of the embankment and excavation areas is completed, the stockpiled topsoil shall be uniformly placed over cut and fill areas above

high water line with priority to the top and upstream slopes of reservoirs, spillways, and borrow pits. Spreading of topsoil shall not be done when the ground or topsoil is frozen, or excessively wet. Topsoil shall be spread to depths as shown on the plans or designated by the BLM.

- B. Excavation: Additional excavation for the convenience of the Contractor, or due to careless operations, including the cost of backfilling, shall be at the expense of the Contractor. The Contractor shall use care not to disturb sod or vegetation in natural spillways or sodded watercourse areas below excavated spillways. Further requirements are:
1. End and side slopes of the borrow excavation shall be as shown on the Work Data Sheet. The dimensions of excavation shall be as shown on the drawings and the Work Data Sheet.
 2. Suitable materials from excavations for specified permanent construction shall be used in the embankment and shall either be placed in the embankment directly from excavation or shall be placed in temporary stockpiles and later placed in the embankment as approved by the BLM.
 3. Excavated materials which are unsuitable for, or are in excess of the requirements, for the embankment or other earthwork, as determined by the BLM, shall be deposited as waste. The material shall be placed immediately below the downstream toe of the embankment in a manner that shall not leave windrows. Compaction of such waste materials shall not be required. Costs of placing material in temporary stockpiles shall be included in the unit price for common excavation.
 4. Core trenches, where required, shall be excavated and suitable materials, as determined by the BLM, shall be placed in the embankment. Material determined not suitable shall be wasted at the downstream toe of the embankment in a manner that will not leave windrows.
- C. Embankment: The embankment shall be constructed downstream from the borrow excavation, as shown on the drawings. Embankment materials shall be free of sod, roots, brush, snow, other waste matter and rocks of a shape or size that will interfere with uniform placement of materials in layers of specified thickness. Fill materials shall not be placed when either materials, or surface on which they will be placed, are frozen or too wet for satisfactory compaction as determined by the BLM. The scarified surface shall be compacted with the first layer of earthfill. Further requirements are:
1. Materials shall be placed parallel to the axis of the embankment in even, continuous, horizontal layers not more than 8 inches in thickness as deposited by scrapers. The full cross section of the fill shall be maintained as each successive layer is placed.
 2. Successive loads of material shall be dumped on earthfill so as to produce an optimum distribution of material, subject to approval of the BLM. Distribution and gradation of materials throughout earthfill shall be free from lenses, pockets, streaks, or layers of material differing substantially in texture or gradation from surrounding material. Combined excavation and placement operations shall be such that materials, when compacted in the embankment, shall be blended sufficiently to secure the optimum compaction and stability.

3. Slopes of embankments shall be finished to conform to lines and grades shown on the Work Data Sheet. The top of the embankment shall be constructed level.
4. Core trenches, where required, shall be backfilled with material excavated from the pit, spillway, or borrow area, with its suitability determined by the BLM.

3.03 FIELD QUALITY CONTROL:

- A. Core Trenches: During backfill operations, the Contractor shall operate hauling equipment evenly over the full width of the excavated core trench to obtain maximum compaction.
- B. Embankment: The Contractor shall route hauling equipment over the layers of embankment material already in place, and shall distribute travel evenly over the entire width of the embankment to obtain maximum compaction while placing material. Overcompaction shall be avoided along hauling route.

END OF SECTION

SECTION 02231

CLEARING AND GRUBBING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Clearing of vegetation, and grubbing of stumps, roots, and debris; disposal of unutilized materials; and other incidental work related to preparing the site for later use.

B. Related Sections:

Trenching - Section 02229

Minor Earth Dams and Pits - Section 02291

1.2 DEFINITIONS

A. Clearing: Clearing shall consist of the felling, trimming, and cutting of obstructions such as trees into sections and the satisfactory disposal of the trees and other surface vegetation designated for removal, including down timber, snags, brush, and rubbish occurring in the areas to be cleared.

B. Grubbing: Grubbing shall consist of the removal and disposal of below-surface stumps, roots larger than 75 millimeters (3 inches) in diameter, and matted roots from the designated grubbing areas.

C. Hazardous Waste: Substance likely to cause death or injury by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful; and includes, but is not limited to flammable dust, flammable fiber, combustible liquid, dangerous chemical, flammable gas, liquified flammable gas, and flammable liquid.

1.3 PROJECT/SITE CONDITIONS

A. Work Limits: Area to be cleared and grubbed will be the excavation area. Total width of clearing shall not exceed 15 feet. This width may be to one side of the pipeline or partially to both sides. Scalping of topsoil during clearing operations will not be permitted.

B. Burning of Slash: Shall not be permitted.

C. Landscape Preservation: Protect vegetation outside the work limits from injury. Existing trees and shrubs shall not be disturbed or damaged.

PART 2 PRODUCTS

2.1 PREPARED PRODUCTS

A. Tree Wound Paint: Bituminous based material of standard manufacture specially formulated for tree wounds.

- B. Herbicide: Comply with Federal Insecticide, Fungicide, and Rodenticide Act, Title 7 U.S.C. Section 136, for requirements on Contractor licensing, certification, and record keeping.

2.2 EQUIPMENT

- A. Spark Arresters: Shall meet the requirements of the U.S. Forest Service Spark Arrester Guide, Volume 2, dated 1993.

PART 3 EXECUTION

3.1 PROTECTION

- A. Utility Lines: Protect existing utility lines that are indicated to remain from damage. Notify the BLM immediately of damage to or an encounter with an unknown existing utility line. The Contractor shall be responsible for the repairs of damage to existing utility lines that are indicated or made known to the Contractor prior to the start of clearing and grubbing operations. When utility lines which are to be removed are encountered within the area of operations, the Contractor shall notify the BLM 72 hours prior to interruption of the service.

3.2 CLEARING

- A. Requirements: Clear trees, stumps, roots, brush, and other vegetation in areas to be graded; cut off flush with or below the original ground surface, except such trees and vegetation indicated or directed to be left standing. Trees designated to be left standing within the cleared areas shall be trimmed of dead branches 1-1/2 inches or more in diameter and be painted with an approved tree-wound paint. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Trees and vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require. Clearing shall also include the removal of existing obstructions that are a distance of 5 feet beyond the perimeter of to-be-built structures.

3.3 GRUBBING

- A. Requirements: Material to be grubbed, together with logs and other organic or metallic debris not suitable for foundation purposes, shall be removed to a depth of not less than 18 inches below the original surface level of the ground in areas indicated to be grubbed. Depressions made by grubbing shall be filled with suitable material and compacted to make the surface conform with the original adjacent surface of the ground. Debris not suitable for foundation purposes shall be removed.
- B. Low Embankment Areas: When the finished subgrade is less than 3 feet above the original ground, remove stumps, roots, and debris to a minimum of 6 inches below the original ground. Backfill stump and root holes with approved material and compact before placing embankment material.
- C. High Embankment Areas: When the finished subgrade is 3 feet or more from the original ground, stumps may be cut flush and left in place. Removal of undisturbed stumps and roots and nonperishable solid objects will not be required. The surface of the original ground shall be scarified before starting the embankment operation.

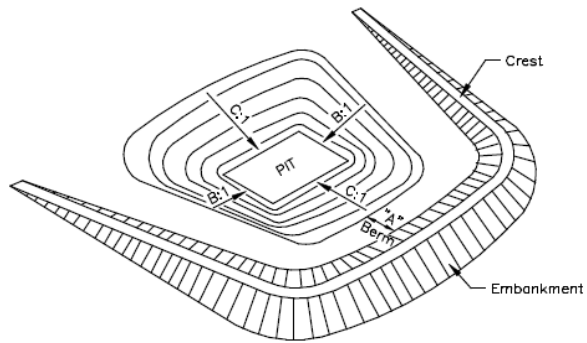
3.4 SALVAGE

- A. Trees and Limbs, 8-inch Diameter and Larger: Trim limbs, cut into approved log lengths, and stockpile where directed. The stockpiled materials will remain the property of the Government.
- B. Trees and Limbs, 3-inch to 8-inch Diameter: Cut logs into 4-foot lengths and stack where directed. The stockpiled material will remain the property of the Government.

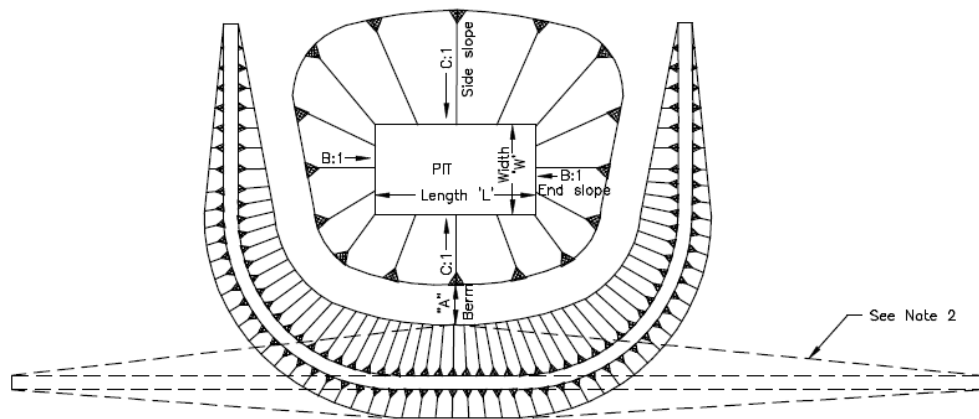
3.5 DISPOSAL

- A. Requirements: Material that is not to be salvaged shall be removed from the project site and legally disposed of offsite or disposed of by a combination of burying and removal. Burning will not be permitted.

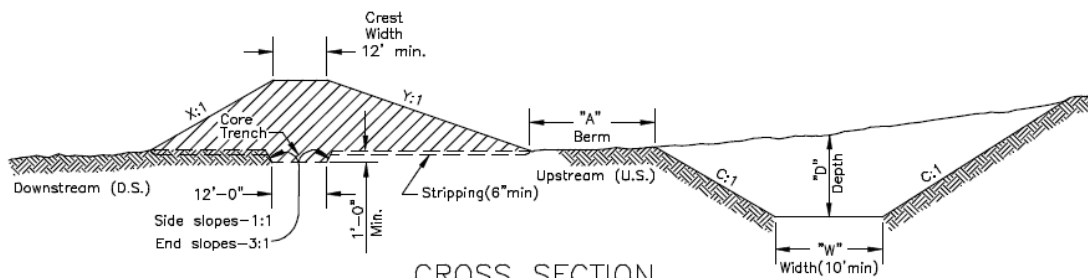
END OF SECTION



PERSPECTIVE VIEW



PLAN



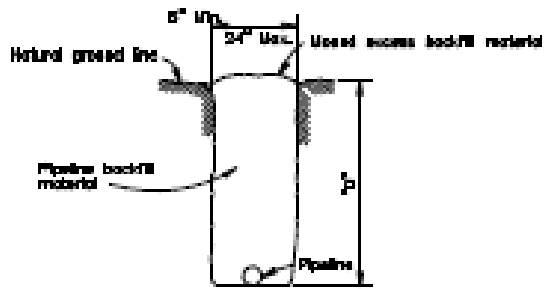
CROSS SECTION

NOTES:

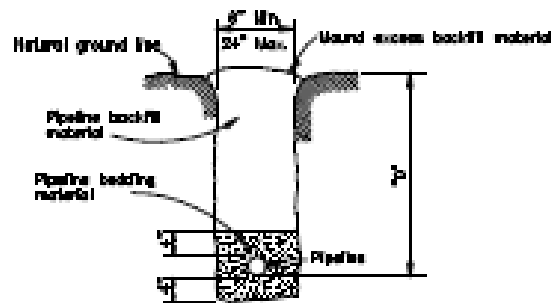
1. Pit and embankment slopes and dimensions shall be as shown on the Work Data Sheet or as staked.
2. Embankment may be "U", "L", "I", or straight line shape. Construct as indicated in specifications or as staked.

ALWAYS THINK SAFETY

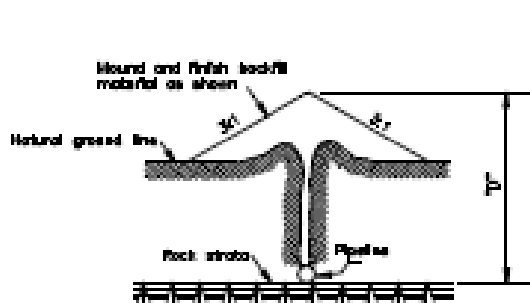
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT DIVISION OF TECHNICAL SERVICES SERVICE CENTER	
TYPICAL WATER RETENTION PIT	
DESIGNED	by others
REVIEWED	
APPROVED	
DRAWN	SCALE NONE
DATE AUGUST 5, 1990	SHEET OF
DRAWING NO. 02291-1	



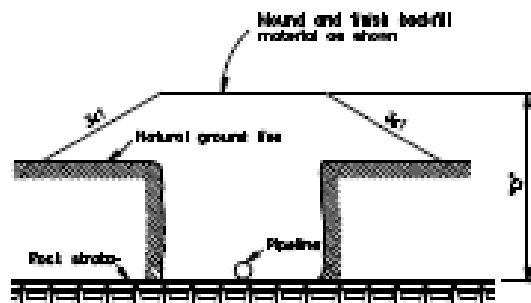
TRENCH-TYPE I INSTALLATION



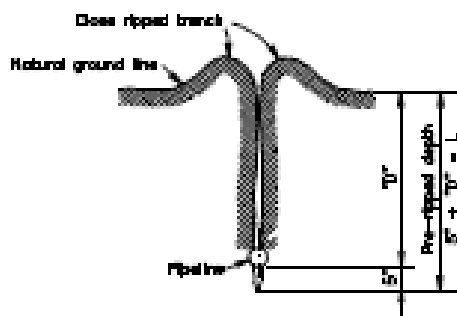
TRENCH-TYPE II INSTALLATION



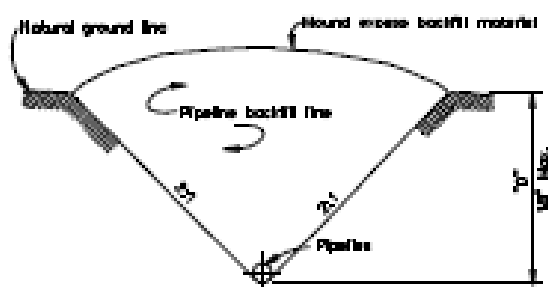
MOUNDED-TYPE A INSTALLATION



MOUNDED-TYPE B INSTALLATION



RIPPED-TYPE INSTALLATION



V\"/>

NOTES:

1. Type of trench shall be as required in specifications.
2. "T" is equal to specified depth as shown on the pipeline plan or profile sheets.

ALWAYS THINK SAFETY

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BUREAU OF LAND MANAGEMENT	
DIVISION OF TECHNICAL SERVICES SERVICE CENTER	
PIPELINE INSTALLATION TYPES	
DESIGNED	by others
REVIEWED	
APPROVED	
DRAWN	SCALE NONE
DATE JULY 25, 1992	SHEET OF
DRAWING NO. 02282-1	